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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,934	07/21/2005	Hiroshi Akaba	SHG-16197	9164
40854 7590 04/07/2008 RANKIN, HILL & CLARK LLP 38210 Glenn Avenue WILLOUGHBY, OH 44094-7808			EXAMINER ROCCA, JOSEPH M	
			ART UNIT 3616	PAPER NUMBER
			MAIL DATE 04/07/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/542,934

Applicant(s)

AKABA ET AL.

Examiner

Joseph Rocca

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)                       |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application             |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> . |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :7/12/05, 2/23/06, 2/27/06, 6/12/07, 11/12/07.

Continuation of Attachment(s) 6). Other: JP 2002-200950A, is an english translation of the JP 2002-200950A reference cited by the applicant.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group 1, Claims 1-10 in the reply filed on 1/18/08 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-200950 A (cited by applicant).

JP 2002-200950 A discloses a travel safety device for a vehicle comprising: an object detecting unit (radar) which detects an object existing in a traveling direction of the vehicle; a correlation calculating unit which calculates a correlation involving a distance between the vehicle and the object on the basis of a detection result of the object detecting unit (Para. 0005 and 0013-0030); a safety unit including an automatic brake unit which automatically decelerates the vehicle and a seatbelt device which automatically tightens the seatbelt and releases the tightening thereof (Abstract, Para. 0005 and 0013-0030); and a safety device operation control unit which determines a possibility of a contact between the vehicle and the object on the basis of the correlation calculated by the correlation calculating unit and for controlling operation of the safety device when it is predicted that there is a possibility of a contact wherein the safety

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device operation control unit actuates the automatic brake unit and seatbelt device when it is predicted that there is a possibility of a contact (Para. 0005 and 0013-0030).

JP 2002-200950 A discloses all of the limitations of claims 1, 8, and 9 except it is not clearly disclosed that the safety device operation control unit, simultaneously actuates the automatic brake unit and the seat belt device when it is predicted that there is a possibility of contact. Nevertheless, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified JP 2002-200950 A, such that the safety device operation control unit, simultaneously actuates both the automatic brake unit and the seat belt device when it is predicted that there is a possibility of contact, for the purpose of ensuring that both safety operations are carried out in a timely manner, so that the occupant is best protected prior to an impact. Meaning that by actuating both safety devices (the automatic brake unit and the seat belt device) at the same time, they would both be actuated as soon as the potential contact is predicted, thus ensuring that both safety means will be actuated in time for the occupant to be protected from the results of the contact. Moreover, activating both safety devices simultaneously would have been obvious because there are only a finite number of options as far as the times of actuating the respective devices to protect an occupant (the automatic brake unit and the seat belt device), which may practically be used, and one of ordinary skill in the art would have anticipated success in actuating both the automatic brake unit and the seat belt device simultaneously. See, KSR v. Teleflex, 82 USPQ2d 1385 (2007).

With respect to claim 8, JP 2002-200950 A further discloses, an in-vehicle LAN, wherein the correlation calculating unit, a brake control unit which controls the automatic brake unit and an electric seatbelt control unit which controls the seatbelt device are connected to a connection bus of the in-vehicle LAN. Regarding the use of a connection bus, it is old and well known in the art to use a connection bus as part of an in-vehicle LAN.

Regarding claim 9, JP 2002-200950 A, the operation of the seatbelt device is made different in a case in which there is a possibility of a contact with a stationary object and in a case in which there is a possibility of a contact with a mobile object., in as much as this limitation is broadly recited, because the operation would be dependent upon whether or not the collision can be avoided, which is affected in part by the relative velocity of the other object -- which would by definition be different if a mobile object and a stationary object are compared.

4. Claims 2-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-200950 A as applied to claims 1, 8, and 9 above, and further in view of Minowa et al. (U.S. Pub. App. 2001/0029418 A1) and GB 2373220 A.

JP 2002-200950 A, does not specifically disclose that the automatic brake unit is constructed so as to be capable of decelerating the vehicle in a plurality of different deceleration patterns, and the seatbelt device is constructed so as to be capable of tightening the seatbelt and releasing the tightening thereof in a plurality of different operation patterns. Nevertheless, both of these features are old and well known in the art.

With respect to the limitation regarding the automatic brake unit being constructed so as to be capable of decelerating the vehicle in a plurality of different deceleration patterns. Minowa discloses this feature as part of a means to warn a driver of the occurrence of a potential impact (see, Paras. 0022 and 0164 as well as Figs. 18-19, Elements 173-174 [respectively]), wherein the use of such braking patterns are for the purpose of making sure the driver does not neglect paying attention when he or she should be carrying out braking / driving operations.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified JP 2002-200950 A, to utilize an automatic brake unit is constructed so as to be capable of decelerating the vehicle in a plurality of different deceleration patterns, so as to warn the driver of a potential contact, prior such that the driver may potentially exercise control over the vehicle prior to the situation wherein it is imminent that an accident will occur. Thereby, potentially increasing safety due to the fact that a driver who is alerted to the situation may be more likely to avoid a collision if they are warned, rather than if they remained unaware of the situation.

The combination of JP 2002-200950 A in view of Minowa et al. (U.S. Pub. App. 2001/0029418 A1), does not clearly further teach the seatbelt device being constructed so as to be capable of tightening the seatbelt and releasing the tightening thereof in a plurality of different operation patterns. Nevertheless, it is old and well known to use a vibrating seat belt to alert a driver of a potentially dangerous situation. GB 2373220 A, teaches the use of such a seat belt device. With respect to the limitation that the seatbelt device is constructed so as to be capable of tightening the seatbelt and

releasing the tightening thereof in a plurality of different operation patterns, the applicant should note that the device disclosed by GB 237320 A teaches both a retraction mode and a protraction mode (Pg. 89, Lines 22-31), which may be periodically increased and decreased (Lines 28-30) by applying pressure to and release from the occupant, so as to warn the driver of a dangerous condition, which broadly interpreted teaches a plurality of different patterns. Moreover, it should be noted that Minowa as discussed above and clearly shown in Fig. 19, teaches that the use of a plurality of different patterns are useful in warning a driver of danger. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the combination of JP 2002-200950 A in view of Minowa et al., to utilize a seatbelt device that is constructed so as to be capable of tightening the seatbelt and releasing the tightening thereof in a plurality of different operation patterns, in view of the teachings of GB 237320 A, for the purpose of better protecting the driver, the vehicle and other people who are riding in the vehicle, or who may be hurt by contact with the vehicle. Furthermore, with respect to the interpretation of a plurality of operation patterns as including different applications of retraction or protraction over different times, since Minowa et al. teaches this element as being useful in warning a driver of danger, with respect to the application of brakes for alerting the driver by causing a light shock of varying patterns (i.e. Fig. 19, Element 174), one of ordinary skill in the art would also have predicted a similar effectiveness in using a plurality of different patterns as part of tightening and releasing a seatbelt for the purpose of alerting a driver to danger. Thus, such a modification would have been obvious as this



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modification involves the application of a known method to a known device ready for improvement to yield predictable results. See, KSR v. Teleflex.

With respect to claim 3, JP 2002-200950 A as modified in view of Minowa et al. and GB 2373220 A, further discloses that the safety device operation control unit is constructed so that, when the distance between the vehicle and the object enters a predetermined range on the basis of the correlation calculated by the correlation calculating unit, the automatic brake unit causes deceleration of a degree, which is capable of making the occupant recognize that a braking force has been generated, to be generated, and at the same time, the seatbelt device alternates tightening of the seatbelt and releasing thereof.

Regarding claim 4, JP 2002-200950 A as modified in view of Minowa et al. and GB 2373220 A, further discloses that the safety device operation control unit is constructed so that a further higher degree of deceleration is generated by the automatic brake unit if such a state is maintained for a predetermined period of time, where the distance between the vehicle and the object enters a predetermined range on the basis of the correlation calculated by the correlation calculating unit.

With respect to claim 5, JP 2002-200950 A as modified in view of Minowa et al. and GB 2373220 A, further discloses that the safety device operation control unit is constructed so that, if such a state is maintained for a predetermined period of time, where the distance between the vehicle and the object enters a predetermined range on the basis of the correlation calculated by the correlation calculating unit, the seatbelt

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device causes the seatbelt to be fixed in its stopped state for at least a predetermined period of time after the seatbelt is tightened.

Regarding claim 6, JP 2002-200950 A as modified in view of Minowa et al. and GB 2373220 A, further discloses that a braking operation detecting unit which detects a braking operation carried out by a driver; and a vehicle speed detecting unit which detects the speed of vehicle, wherein the safety device operation control unit is constructed so that fixing of the seatbelt in its stopped state by the seatbelt device is released in at least one of the states where it is detected on the basis of a detection result of the braking operation detecting unit that a braking operation is released after the braking operation is carried out by a driver and where it is detected on the basis of a detection result of the vehicle speed detecting unit that the vehicle stops.

With respect to claim 7, JP 2002-200950 A as modified in view of Minowa et al. and GB 2373220 A, further discloses a braking operation detecting unit which detects a braking operation carried out by a driver, wherein the safety device operation control unit is constructed so that, on the basis of a braking operation detected by the braking operation detecting unit, it determines whether there is a possibility of a contact between the vehicle and the object, and increases a tightening tension of the seatbelt by the seatbelt device in a case in which it is predicted based on a braking operation carried out by a driver that there is a possibility of a contact prior to a case in which it is predicted, on the basis of the correlation between the vehicle and the object, which is calculated by the correlation calculating unit, that there is a possibility of a contact therebetween.

Regarding claim 10, JP 2002-200950 A as modified in view of Minowa et al. and GB 2373220 A, further discloses a collision sensor which detects a collision of a vehicle, wherein the safety device is further provided with airbag devices, wherein the safety device operation control unit is constructed so that it simultaneously actuates the automatic brake unit and the seatbelt device when it is predicted that there is a possibility of a contact, and actuates the airbag devices when the collision sensor detects collision of the vehicle.

***Examiner's Note***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:
- a. Inuzuka et al. (U.S. 2005/0011983 A1) discloses a seat belt device which may be of interest to the applicant.
  - b. Kachu (U.S. 7,059,444 B2) discloses a seat belt device that may be of interest to applicant.
  - c. Yano et al. (U.S. 6,726,249 B2) discloses a motorized seatbelt, which may be of interest to the applicant.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Rocca whose telephone number is 571-272-5191. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 571-272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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